

#### ABSTRACT OF DISCLOSURE

A differential phase detection device receives first through fourth detection signals from a photodetector and detects a differential phase signal therefrom, the differential phase detection device includes a slicer slicing and digitizing each of the detection signals with respect to a reference level. A synthesizer synthesizes the digitized detection signals and generates therefrom synthesis signals. A phase difference detector compares phases of the synthesis signals and outputs a first phase difference signal and a second phase difference signal. A matrix circuit processes the first and second phase difference signals to output the differential phase signal.

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